# *Protecting people*

## People's safety comes first.
## That encapsulates every law DPR enforces, every program we administer.

In the same way, treating people fairly guides how we conduct every aspect of our business. Fair treatment means that no one group of people, including racial, ethnic, or socioeconomic groups, should be disproportionately impacted by pesticides. Anyone whose health or environment may be affected by pesticides holds a stake in DPR's decisions. We want to make sure that all have an opportunity to participate in the regulatory process. Environmental justice is not just the law, it's how we do our job.

Many of our efforts involve agricultural workers, because people who work with and around pesticides daily face more potential risks than any other group. While DPR recognizes and responds to the needs of diverse populations – from schoolchildren to Native Americans to urban residents – we never lose sight of the fact that workers stand on the front line of pesticide risk. The level of protection we afford them provides a strong indication of how we protect society as a whole.

"In the last couple of years, DPR completed two assessments of our worker protection program, in response to concerns voiced by worker advocacy groups, and our own staff," said Charles Andrews, chief of the Worker Health and Safety Branch. "First, we assessed field posting requirements and found them to be adequate, though we also determined that notification and posting should be a high enforcement priority for the counties.

"More recently, we assessed worker right-to-know provisions and revised outreach materials to make information more understandable to workers," said Andrews. In 2003, DPR plans to introduce a Worker Protection Initiative that will make worker safety information more accessible and our requirements more enforceable.

DPR has also endorsed community-based initiatives that will better protect workers. Some of our County Agricultural Commissioner partners have made notable efforts in this area, working vigorously to improve pesticide use compliance, acknowledging that this increases protections for all our citizens. For example, San Diego County officials took action after noticing a statistical anomaly in pesticide illness reports.

"Most people don't think of San Diego County as farm country, but we have more farms than all but one other county in California, and more small farms than anywhere in the nation," said County Agricultural Commissioner Kathleen Thuner. "In one recent year, we had more than 80,000 agricultural pesticide applications – yet in that same year, we received only 88 reported pesticide illnesses, and only three agricultural cases. Obviously, illnesses were not being reported."

As a result, Thuner founded the Farmworker Health Initiative early in 2000. Originally focused on improving illness reporting to the county health officer, the San Diego initiative has since expanded to encompass a broad range of agricultural worker health issues. "Education is our primary strategy," said Thuner. "We want to educate medical professionals about the symptoms of pesticide exposure, and we want to educate field workers and their families on how to protect themselves. In the process, we've also begun looking to make improvements in access to medical care, better housing, and sanitation."

**ADDRESSING HEALTH CONCERNS:** DPR and other agencies recently completed an investigation of pesticides and community health in the area of Lompoc, in Santa Barbara County, where data had suggested that respiratory illnesses occurred at higher rates than expected. DPR formed an interagency workgroup that included Lompoc residents. Based on their recommendations, DPR monitored ambient air in and around the town for 31 pesticides and breakdown products. DPR chose high-risk pesticides for monitoring based on their toxicity, volatility, and amount of use. To ensure a thorough study, DPR contracted with the University of California to develop new methods to monitor for more than two dozen pesticides simultaneously. While many pesticides were detected, and some quite frequently, air concentrations were low compared to health screening levels. (DPR uses screening levels to help determine when it may be prudent to evaluate potential health effects of chemical exposure. By itself, a screening level does not indicate the presence or absence of a hazard.) DPR, with other agencies, evaluated the data for potential health risk from individual pesticides as well as cumulative exposure to multiple pesticides, concluding that the potential health risk in the area is low. No further investigation is planned.

**PREVENTING PESTICIDE ILLNESS:** DPR has a nationally recognized program to investigate, evaluate and track pesticide-related illnesses. All pesticide-related illnesses must be reported to the State. They are investigated by the County Agricultural Commissioners and the investigative reports are analyzed by DPR technical staff. To help county staff improve their investigative techniques and reporting, staff from DPR's Enforcement and Worker Health and Safety Branches evaluated more than 300 investigative reports and conducted training focused on their findings.

In a very comprehensive study completed in 2001, Department scientists compared DPR data to other major sources of health data (hospital records and poison control records) to gauge the completeness of our database and get a clearer picture of the health effects of pesticides in California. We found that DPR's data captures primarily occupational, agricultural cases while hospital and poison control records identified mostly non-occupational cases. We also found that we had better data on incidents in which more than one person was exposed, and had data on every episode in which more than three persons were exposed. DPR has been working on a variety of fronts for several years to improve illness reporting, and to educate farm workers on their right to seek medical attention. However, the recording of residential and intentional exposures continues to be a problem, especially since the State's fiscal crisis prompted a suspension of a DPR contract with the State's Poison Control Center to report pesticide illnesses on behalf of physicians. When resources become available, DPR will pursue funding for a continuing contractual relationship with the Poison Control Centers to share information on pesticide-related illnesses.

**PROTECTING TRIBAL RESOURCES:** When trees from national forests are removed (due to fires or logging), the U.S. Forest Service prepares the site and replants conifers. Similarly, after timber companies harvest trees on their own land, they also replant. As part of this process, herbicides are used to control plants that compete with the conifers. In recent years, California tribal people who live and gather food, medicinal, ceremonial and basketry plant materials in or near these forests have voiced concerns about herbicide exposure. In response, the U.S. Forest Service and the U.S. Environmental Protection Agency funded a series of studies by DPR to assess the potential exposure of plant gatherers and users to forestry herbicides. Beginning in 1998, surface water was monitored during and after aerial and surface pesticide applications, and plant samples were collected to monitor drift and the dissipation of herbicides on sprayed plants. DPR also completed a pilot study in collaboration with the State Department of Fish and Game and the Yurok Tribal Fishery to determine herbicide residues in fish tissues. Final reports on the studies were completed in 2002.

In one project, DPR formed a workgroup of tribal members, timber company representatives, and staff from DPR and the offices of local County Agricultural Commissioners. Meetings became a forum to discuss a wide range of issues, and concerns were raised about underreporting of illnesses because health care providers who regularly treat Indians may not be familiar with the symptoms of pesticide-related illnesses. To address this, DPR contracted with the University of California at Davis to develop an Internet-based training program for Indian health care providers. Program development was completed and certified for continuing education credits and became available on the University's Web site in 2002.

**REDUCING THE IMPACT OF FUMIGANTS:** Measured in pounds, fumigants represent about 20 percent of all agricultural pesticides used in California. Before planting crops, farmers use fumigants to control disease, weeds and pests in the soil. Since fumigants are both toxic and gaseous, their offsite movement can pose hazards. In a coordinated effort to assess hazards of fumigants and reduce their environmental impacts, DPR and the Commissioners have implemented the nation's strictest controls on fumigants.

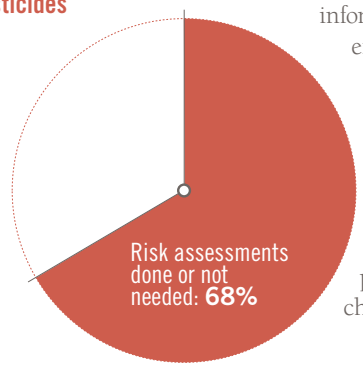
Methyl bromide was the most widely used fumigant and the focus of greatest concern. Regulations that went into effect in early 2001 established minimum buffer zones around fumigations to better protect neighborhoods, schools, and other sensitive areas. Worker protections were also increased. To better evaluate the potential impacts of long-term exposure to methyl bromide, DPR ordered methyl bromide registrants to conduct air monitoring in 2001 and 2002 in areas and seasons of highest use. This complemented monitoring done by the Air Resources Board in 2000 and 2001, at DPR's request. DPR will consider subchronic exposure controls when it promulgates new regulations in 2003 to replace those invalidated in a 2002 court judgment. Meanwhile, the increasing cost of methyl bromide (the result of an impending phaseout in 2005) and DPR's strict controls have combined to reduce use in California to historically low levels.

DPR and the Commissioners are also implementing new controls for the fumigant metam-sodium, calling for stricter oversight, buffer zones, and other measures to prevent drift. DPR also placed chloropicrin into formal reevaluation, which allowed us to require registrants to submit worker exposure studies and air monitoring data needed to complete an in-depth risk evaluation of this fumigant. DPR also conducted air monitoring in 2000 and 2001 for both chloropicrin and for 1,3-dichloropropene to assist in evaluating potential health risks.

**AUSPICIOUS TREND:** Reported pesticide use dropped by more than 60 million pounds between 1998 and 2001, down to approximately 153 million pounds. (All pesticide use in agriculture must be reported to the State, as well as structural applications by professional applicators. Exempt from reporting are most institutional and all consumer use.) Use of chemicals classified as possible carcinogens, reproductive toxins, and toxic air contaminants all declined, both in pounds applied and acres treated. "There are always a variety of factors that influence pesticide use, but we also know that DPR runs the best pesticide regulatory program in the nation," said DPR Director Paul Helliker. "We've been advocating reduced-risk, reduced-use pest management, and California pesticide users are putting that philosophy to work."

**PESTICIDE RISKS WELL-STUDIED:** DPR scientists perform risk assessments to answer questions about how toxic a chemical is, what exposure results from its various uses, what is the probability that use will cause harm, and how to characterize that risk. When this information is known, measures can be taken to limit exposures so that harmful effects can be avoided.

**Ponds of Pesticides Used in 2001**




The completion of dozens of risk assessments in recent years means that for the most hazardous chemicals, risks have been determined and dealt with. In 2001, for example, more than two-thirds of the pounds of pesticides used were chemicals that either had gone through risk assessment or (in the case of oils and sulfur), no risk assessment was needed. Risk assessments have been done on the higher toxicity pesticides (for example, most fumigants), and most remaining high-risk chemicals are now going through the process.